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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/634,876

08/06/2003

Hideki Iwata

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8217

21171 7590 03/18/2009  
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EXAMINER

ROJAS, BERNARD

ART UNIT

PAPER NUMBER

2832

MAIL DATE

DELIVERY MODE

03/18/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Supplemental  
Notice of Allowability**

**Application No.**

10/634,876

**Applicant(s)**

IWATA ET AL.

**Examiner**

BERNARD ROJAS

**Art Unit**

2832

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the certified copy of the foreign priority filed 02/27/09.
2. ☒ The allowed claim(s) is/are 1,5-8,11,15,18,22,24,27,30-38,40,43,44,46 and 68.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Allowable Subject Matter***

Claims 1, 5-8, 11, 15, 18, 22, 24, 27, 30-38, 40, 43, 44, 46 and 68 are allowed.

The following is an examiner's statement of reasons for allowance:

Claims 1, 15, 18, 24, 27, 30-38 and 68, the prior art of record does not teach nor suggest, in the claimed combination, a micro-relay with a first substrate having stationary contacts and a stationary electrode; a second substrate, having a stationary contact, arranged so as to face the first substrate; and a frame sandwiched between the first and second substrates to realize a hermetical sealed structure, a movable portion with multiple movable contacts parallel relative to the first and second substrates and attached to the frame via springs wherein the multiple movable contacts are located between the stationary contacts without making contact with any of the stationary contacts of the first and second substrates when a voltage is not applied between the movable electrode and the stationary electrode, and when the multiple movable contacts are released from a connecting state in which the movable contacts make a connection with the stationary contacts of the first substrates, the movable contacts are disconnected therefrom and make a connection with the stationary contact of the second substrate that is at a ground potential.

Claim 43, the prior art of record does not teach nor suggest, in the claimed combination, a micro-relay further comprising a base substrate that supports the first substrate, members that connect the movable electrode and the stationary electrode to pads formed on the base substrate, and resin that covers the first and second substrates and the movable plate.

Claim 44, the prior art of record does not teach nor suggest, in the claimed combination, a micro-relay comprising: a first substrate having stationary contacts and a stationary electrode; a second substrate arranged so as to face the first substrate; and a movable plate arranged between the first and second substrates, the movable plate having a frame and a movable portion, the frame being sandwiched between the first and second substrates to realize a hermetical sealed structure, the movable portion having a movable electrode facing the stationary electrode, and a movable contact facing the stationary contacts, the movable portion moving between the first and second substrates due to electrostatic attraction that develops between the movable electrode and the stationary electrode, wherein the frame has a protrusion and the movable portion has a counterpart recess.

Claim 46, the prior art of record does not teach nor suggest, in the claimed combination, a micro-relay comprising: a first substrate having stationary contacts and a stationary electrode; a second substrate arranged so as to face the first substrate; and a movable plate arranged between the first and second substrates, the movable plate having a frame and a movable portion, the frame being sandwiched between the first and second substrates to realize a hermetical sealed structure, the movable portion

having a movable electrode facing the stationary electrode, and a movable contact facing the stationary contacts, the movable portion moving between the first and second substrates due to electrostatic attraction that develops between the movable electrode and the stationary electrode, wherein the movable portion and the frame have an identical thickness.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Iwata et al. [US 6,828,888] discloses multiple features of the claimed invention but does not constitute prior art due to its filing date.
- Miller et al. [US 5,372,515] discloses a mechanical ESD protector.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BERNARD ROJAS whose telephone number is (571)272-1998. The examiner can normally be reached on M and W-F, 10:00-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2832

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elvin G Enad/

Supervisory Patent Examiner, Art Unit 2832

Br

/Bernard Rojas/

Examiner, Art Unit 2832